

**Amendments to the Claims:**

Please replace all prior versions, and listings of claims in the application with the following listing of claims.

**Listing of claims**

Claim 1 (currently amended): A passive mixer for converting a first signal having a first frequency to a second signal having a second frequency, comprising:

mixing means, a first terminal, a second terminal and a third terminal, for providing the second signal by mixing a third signal having a third frequency provided as input at said second terminal and the first signal provided as input at either the first or the third terminal; and

a feedback circuit operatively connected to said third and said second terminal,  
wherein the feedback circuit comprises a low pass filter.

Claim 2 (previously presented):       The mixer according to claim 1, wherein the feedback circuit is a bootstrap circuit.

Claim 3 (canceled)

Claim 4 (currently amended): The mixer according to claim ~~[[3]]~~ 1, wherein the filter comprises a capacitor connected between said second terminal and said mixing means, and a resistor connected between said third terminal and the connection between said capacitor and said mixing means.

Claim 5 (previously presented):       The mixer according to claim 1, wherein said mixing means is a voltage controlled switch.

Claim 6 (previously presented):       The mixer according to claim 1, wherein said mixing means comprises a FET transistor switch having either its drain or source operatively connected to said first terminal, its gate operatively connected to said second terminal, and either its source or drain operatively connected to said third terminal.

Claim 7 (previously presented): The mixer according to claim 6, characterized in that said FET transistor is an NMOS transistor.

Claim 8 (previously presented): The mixer according to claim 1, wherein the mixer is a balanced mixer comprising an even number of mixing means.

Claim 9 (previously presented): The mixer according to claim 1, wherein the mixer is included in electronic equipment.

Claim 10 (previously presented): The mixer according to claim 9, wherein the electronic equipment is a portable communication equipment having a supply voltage of less than 2V.

Claim 11 (previously presented): The mixer according to claim 9, wherein the electronic equipment is a mobile radio terminal, a mobile telephone, a pager, or a communicator.

Claim 12 (previously presented): The mixer according to claim 9, wherein the electronic equipment is adapted to operate in a wireless local area network.

Claim 13 (previously presented): The mixer according to claim 9, wherein the electronic equipment is communication equipment adapted to provide short-range supplementary communication according to Bluetooth<sup>®</sup> technology.

Claim 14 (withdrawn): Apparatus comprising:

a mixer; and

a low noise amplifier,

wherein:

the mixer comprises:

mixing means, a first terminal, a second terminal and a third terminal, for providing the second signal by mixing a third signal having a third frequency provided as input at said second terminal and the first signal provided as input at either the first or the third terminal; and

a feedback circuit operatively connected to said third and said second terminal;

the mixer is connected to the low noise amplifier; and  
the low noise amplifier comprises:

a first input terminal connected to a first capacitor being connected to a first amplifying means, said first amplifying means is connected to a first output terminal and to voltage supply via a first inductor;

a second input terminal connected to a second capacitor being connected to a second amplifying means, said second amplifying means is connected to a second output terminal and to voltage supply via an second inductor; and

wherein the first and second amplifying means are referenced to grounding means, and the first and second output terminals are referenced to said grounding means via third and fourth inductors.

Claim 15 (new):       The mixer according to claim 1, wherein the feedback circuit comprises a capacitor connected between said second terminal and said mixing means, and a resistor connected between said third terminal and the connection between said capacitor and said mixing means.

Claim 16 (new):       The mixer according to claim 1, wherein:  
said first signal is provided as input at said first terminal;  
said second signal is supplied as output at said third terminal;  
said first frequency is a radio frequency; and  
said second frequency is an intermediate frequency.